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With amended claims.
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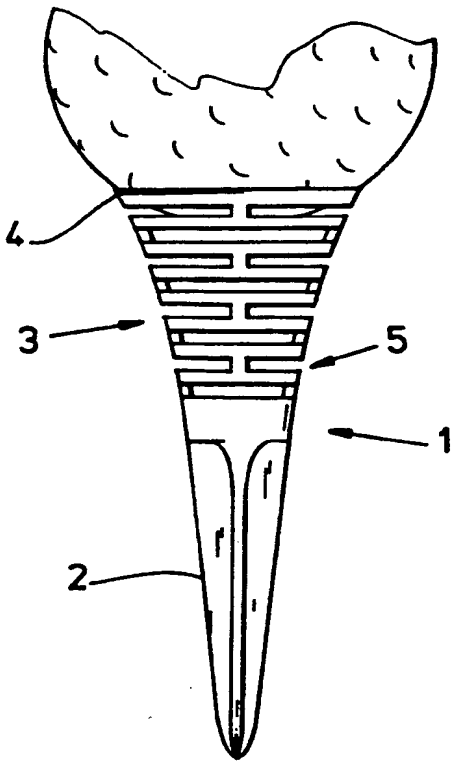
(54) Title: GOLF TEE

(57) Abstract

The present invention relates to a golf tee (1) having a yieldable and deformable folding zone (5), whereby a tee (1) is provided which does not break so easy as a common tee. It does not loosen so easy from its position at a smashing out place during a smashing out. A feature according to the present invention is thus the yieldable folding zone (5). The anchoring portion (2) of the tee (1) and the golf ball supporting portion (4) therefore can have an optional appearance. The folding zone (5) can start at a position next to the apex of the tee and end at a position next to its upper part in all embodiments. Hereby the tee is unloaded the risk to break by increased weight tendency and deformation property. The sudden collision by a club blade is now unloaded in a movement owing to the yieldability of the tee.



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Golf tee

The present invention relates to a golf tee comprising an anchoring portion, a middle portion and a bowled formed portion for supporting a golf ball.

The tees usually used today on golf-links around the world are manufactured by wood or plastic having a point formed portion intended to be pressed down into the ground and a rigid middle portion which ends in a bowl formation for supporting a golf ball.

This type of tee has many drawbacks consisting in that the tee loosen easily from the smashing out place during smashing out and is spread around so that it litters, it destroys lawn-movers and you have to search for it. Further the tee breaks sometimes during smashing out and has to be replaced by a new one, small pieces are spread without being visible and are then lying in the way for lawn-movers and said small pieces are difficult to find and to remove when you cannot see them. Owing to that the tee is rigid it flys easy its way, breaks easily and does not yield but can sqeeze between the club and the ball and thus jeopardize the smash so that the ball path is deteriorated.

Further this type of tee is difficult to press down on the smashing out place, which causes that several attempts must be carried out until a real hole has been provided where the tee can be anchored without being loose and extending oblique in the hole. This moment causes that the player wasts unnecessary time and becomes irritated before the tee is anchorded in its place.

The object of the present invention is to provide a tee of the type described in the beginning, by which the drawbacks mentioned above are eliminated. The features which are significative for the invention are stated in the following claims.

Thanks to the invention a new type of tee is provided having a fold- and deformation area, by which the tee can be fold aside and/or be deformated by a club hit during a smash out and then, during the folding and/or deformation decrease the stress on the tee and thus get it to more often remain at the smashing out place and further minimize the risk that the tee will be hit off. Having a fold- and deformation area the time is extended to attack the tee by the clubhit. Now the exposure effect and damages of the tee and the risk that it flyes away. Finally the tee can be made so that it easily can be anchored at the smashing out place, since its anchoring portion in cross section can be starformed, which prevents that the ground around the same expands during the pressing down. Of course it can also be formed normally, that is conical or the like.

The invention will now be described further in detail by reference to the accompanying drawings, on which

Fig. 1 shows a side view of a tee according to a first embodiment of the present invention,

Fig. 2 shows a cross section along the line A-A through the tee in Fig. 1,

Fig. 3 shows a cross section along the line B-B thorugh the tee in Fig. 1 and 4,

Fig. 4 shows a side view of a tee according a second embodiment of the present invention,

Fig. 5 shows a side view of a tee according a third embodiment of the present invention,

Fig. 6 shows a side view of a tee according a fourth embodiment of the present invention,

Fig. 7 shows a plan view from the line A-A in the tee in Fig. 6,

Fig. 8 shows a side view of a tee according to a fifth embodiment of the present invention,

Fig. 9 shows a perspective view of the tee in Fig. 8,

Fig. 10 shows a side view of a tee according to a sixth embodiment of the present invention,

Fig. 11 shows a side view of a tee according to a seventh embodiment of the present invention,

Fig. 12 shows a side view of a tee according to an eighth embodiment of the present invention,

Fig. 13 shows a side view of a tee according to a ninth embodiment of the present invention, by which the folding zone is sunk in a collarformed portion,

Fig. 14 shows a side view of a tee according to a tenth embodiment of the present invention,

Fig. 15 shows a schematic side view of the tee in Fig. 14 during the hit of a club blade and

Fig. 16 shows a side view of a tee according to an eleventh embodiment according to the present invention.

In Fig. 1 a first embodiment of a tee 1 according to the present invention is illustrated, said tee 1 comprises an anchoring portion 2, a middle portion 3 and a bowl formed portion 4 supporting a golfball. The middle portion 3 consist of an integrally formed material piece yieldable laterally, said portion forms a folding zone 5 for performing a lateral movement of that portion of the tee 1 situated above anchoring portion 2 when being hit by a golf club during a smashing out. Owing to this a tee break and/or a smashing away of the tee 1 from its anchoring place in the ground by

the club during a mishit is eliminated. The folding zone 5 is in the embodiment illustrated in Fig. 5 situated just above the anchoring portion 2 and consists of a short length. Fig. 2 and 3 illustrate cross sections along the lines A-A and B-B in Fig. 1 and from which can be seen that the golf ball supporting portion 4 is bowl formed and that the anchoring portion 2 is provided with ribs 6 for easy pressing down into the ground.

The embodiment illustrated in Fig. 4 has an elongated folding zone 5. The folding zone can be thread- or strip formed in Fig. 1 and in Fig. 4, 6 and 13 or consists of a combination of said forms.

The embodiment according to Fig. 5 comprises a folding zone 5 along the middle portion 3, which is tube formed and said tube formation extends upwards in the tee 1 and terminates collarformed in the golf ball supporting portion 4. Here the ribs 6 on the anchoring portion are barb formed for better anchoring into the ground.

From Fig. 6 and 7 can be seen an embodiment of a tee 1, which har a starformed cross section of the anchoring portion 2 and a thinner bowl formation of the golf ball supporting portion 4 to be able to be easier deformated by smashes without too easy be broken.

The embodiment illustrated in Fig. 8 and 9 has a folding zone 5 provided with slits 7 above each other and extending in the cross-direction of the tee 1, and the thinwall tube formation of said tee 1 having upwards diverging walls. The tube formation can be conically formed. The folding zone 5 can extend all the way up to the top to easier be able to be deformed without being easy broken. In this case the tee will become very flexible and is bend and stretched out when being hit as a concertina or network 12 in the same way as illustrated in Fig. 15. During a pressure from above the disc elements 11 are pressed against each other and decrease the tipping effect of the folding zone 5. The folding zone 5

now functions best during smashing, but is yet rather rigid during the pressing down movement of the tee into the ground.

The embodiment according to Fig. 10 illustrates a tee 1 having elongated slits 8, extending in their longitudinal direction, said slits are intended to avoid gathering of material in the folding zone 5 when bending the same during hit of a club blade. By the conicity of the cavity ot the tee 1 also its manufacturing can be simplified and the tool for its manufacturing be made cheaper. The slits 8 can extend all the way up to top of the tee. It can in this case take up deformations without being broken easy.

Fig. 11 illustrates an embodiment reminding about that illustrated in Fig. 8, but here the transverse slits 7 are differently placed in the folding zone 5.

The embodiment illusatrated in Fig. 12 has a folding zone 5 consisting of a bellow-formed, thin-walled tube formation 9. When smashing the bellow can be folded and/or stretched like a concertina.

In Fig. 13 an embodiment of the tee 1 is illustrated, by which the folding zone 5 is submerged into a collar formed part 10 in the anchoring portion 2 and said part also is a stopp flange for the pressing down movement of the tee 1 into the ground along a predetermined distance. By the embedding of the folding zone 5 this is protected for a direct hit by a club blade, whereby the risk for tee break is reduced.

Those tees having tubular folding- and deformation zones give better possibilities for a person to press them down into the ground where the smashing out shall take place. The breaking point in this case is situated outside the point of balance during substantially upright position i.e. a vertical location of the tee. The trend that the tee tilts when a ball is lying on its upper portion is reduced also by these

types of tees. They have also easier to take up deformations without break. The folding zone 5 of the tee can extend right up to the ball according to Fig. 14 and 15. The folding zone 5 itself can accordingly be thread-, strip-, tube-, oval-, edged- or ribformed in oblique, straight, bent or similar extensions above the tip or anchoring portion 2 of the tee.

In Fig. 16 an embodiment is illustrated which reminds about that in Fig. 14. It also is similar to that princip according the tee in Fig. 4. Here the folding zone 5 comprises spring formed wire connections 13, whereby a yielding of the parts 3 and 4 by smashings can be provided. In the top the tee can be ended by a bowl formation for the ball or the spring structure alone can act as a bowl. Further the rounding of the spring-formed wire connections 13 look like a washing plate, i.e. the spring turns extend into each other. When the weight of the ball exert a pressure on the wire connections 13 a certain side rigidity is obtained, so that the ball does not so easy tilts off the tee. By smashing out it becomes however very flexible and this recuce with other words the risk of tee break.

Claims

1. Golftee comprising an anchoring portion (2), a middle portion (3) and a golfball supporting portion (4), **characterized in** that the middle portion (3) consists of a laterally yieldable material piece forming a folding zone (5) for providing of a movement and/or deformation of the part of the tee (1) situated above the anchoring portion (2) when being hit by a golf club during a smashing out for reducing of risk of tee break and/or smashing away of the tee (1) from its anchoring position in the ground by the club during a mishit.

2. Tee according to claim 1, **characterized in** that the folding zone (5) consists of a short length above the anchoring portion (2).

3. Tee according to claim 1, **characterized in** that the middle portion (3) consists of hollow tube, the cavity of which extends upwards in the tee (1) and ends in the golf ball supporting portion (4).

4. Tee according to claim 3, **characterized in** that the middle portion (3) is loosely fixed into the anchoring portion (4).

5. Tee according to claim 1 or 2, **characterized in** that the folding zone (5) is submerged into a collar formed part (10) of the anchoring portion (2) and said part also is a stop flange for the pressing down movement of the tee (1) into the ground over and above a predetermined length.

6. Tee according to any of the preceding claims, **characterized in** that the folding zone (5) consists of a perforated, thin-walled cavity formation.

7. Tee according to any of the preceding claims, **characterized in** that the folding zone (5) consists of a bellow-formed, thin-walled tube formation (9).

8. Tee according to claim 6, **characterized in** that the thin-walled, hollow formation comprises diverging walls in a direction towards the golf ball supporting portion (4).

9. Tee according to claim 6, **characterized in** that the perforations in the thin-walled, hollow formation consist of elongated slits (8) extending in the longitudinal direction of the tee (1) or short slits (7) extending across the longitudinal direction of the tee (1) and provided over and above each other.

10. Tee according to claim 1, **characterized in** that the middle portion (3) is spring formed, conically or cylindrically formed or has spring formed wire connections (13), which are formed as having a cylindrical or conical formation.

AMENDED CLAIMS

[received by the International Bureau on 14 October 1991 (14.10.91); original claims 1-10 replaced by amended claims 1-6 (1 page)]

1. Golftee comprising an anchoring portion (2), a middle portion (3) and a golfball supporting portion (4), **characterized in** that the middle portion (3) is integrally formed with the anchoring portion (2) and said golfball supporting portion (4) and consists of a resilent thin walled material piece forming an impressed folding zone (5) for providing of a lateral movement and/or a deformation of the supporting portion (4) when being hit by a golf club during a smashing out in reducing of the risk of tee break.

2. Tee according to claim 1, **characterized in** that the folding zone (5) is submerged into a collar formed part (10) of the anchoring portion (2) and said part also is a stop flange for the pressing down movement of the tee (1) into the ground over and above a predetermined length.

3. Tee according to claim 1 or 2, **characterized in** that the impressed folding zone (5) consists of a perforated cavity formation.

4. Tee according to any of the preceding claims, **characterized in** that the perforated folding zone (5) consists of a bellow-formed, thin-walled tube formation (9).

5. Tee according to any of the preceding claims. **characterized in** that the thin-walled, hollow formation comprises diverging walls in a direction towards the golf ball supporting portion (4).

6. Tee according to any of the preceding claims, **characterized in** that the perforations in the thin-walled, hollow formation consist of elongated slits (8) extending in the longitudinal direction of the tee (1) or short slits (7) extending across the longitudinal direction of the tee (1) and provided over and above each other.

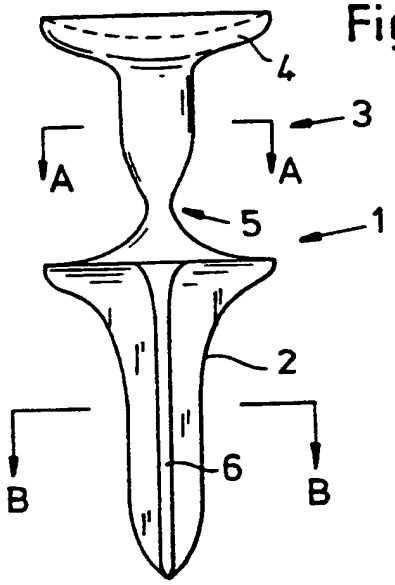

Fig. 1

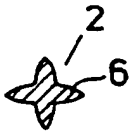

Fig. 3

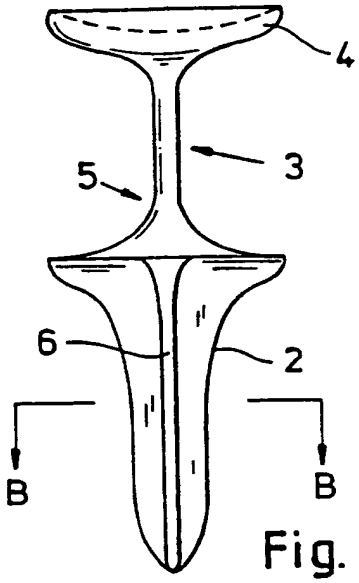

Fig. 4

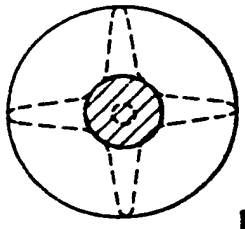

Fig. 2

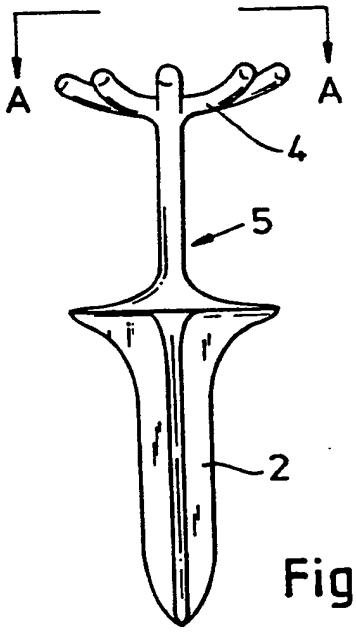

Fig. 6

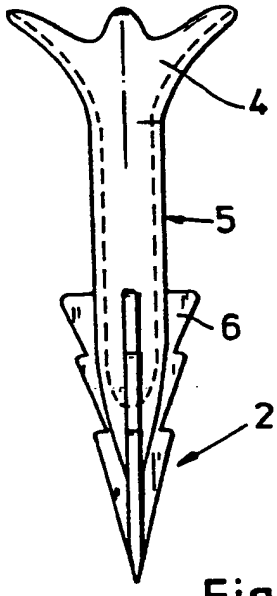

Fig. 5

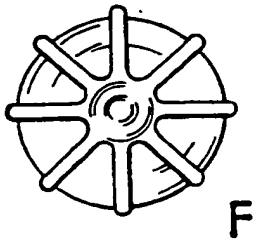

Fig. 7

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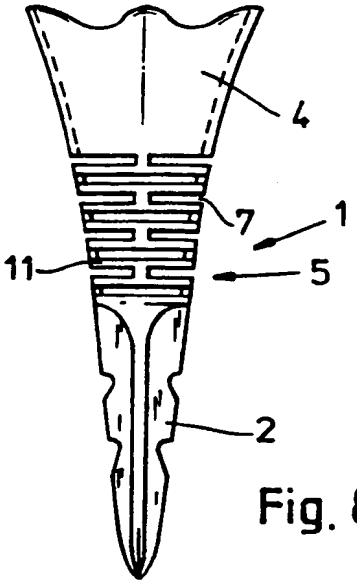

Fig. 8

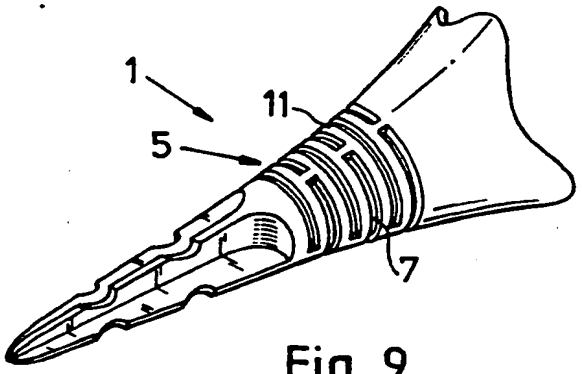

Fig. 9

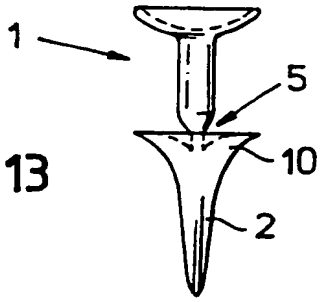

Fig. 13

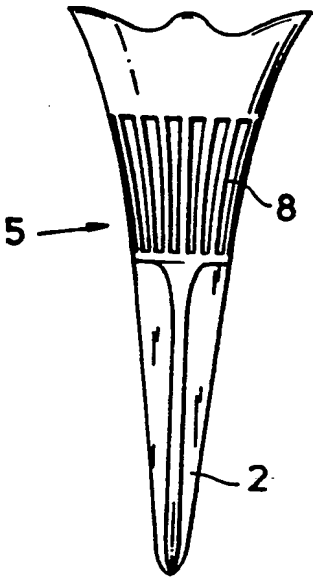

Fig. 10

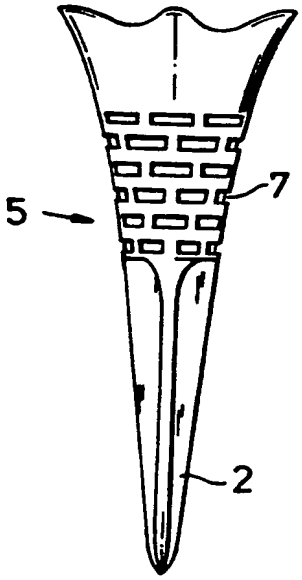

Fig. 11

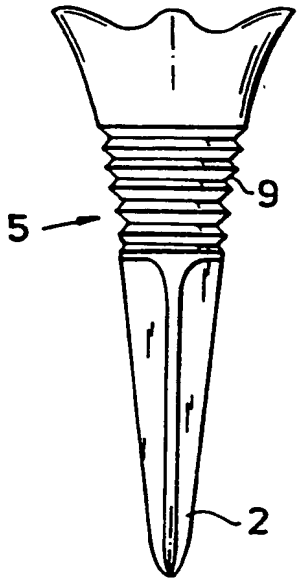

Fig. 12

SUBSTITUTE

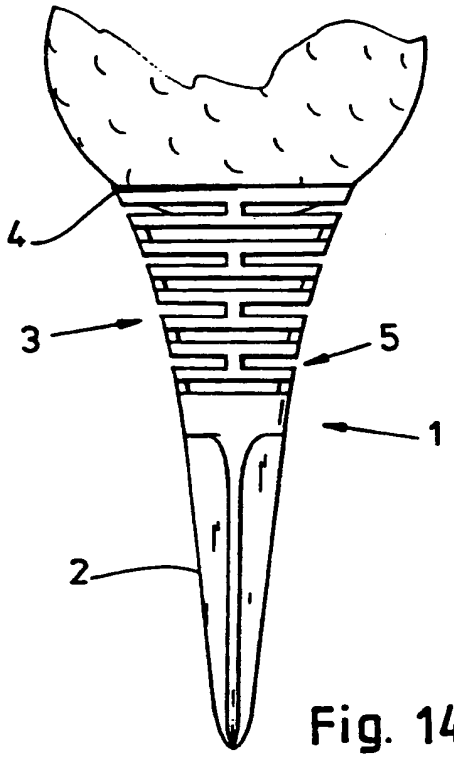

Fig. 14

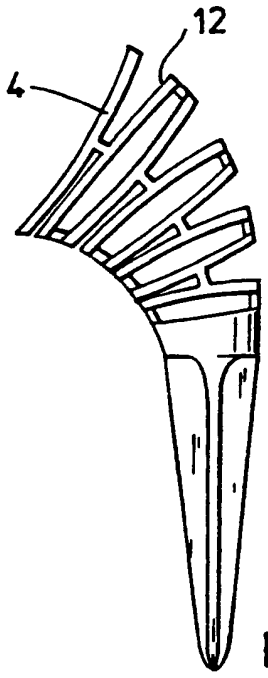

Fig. 15

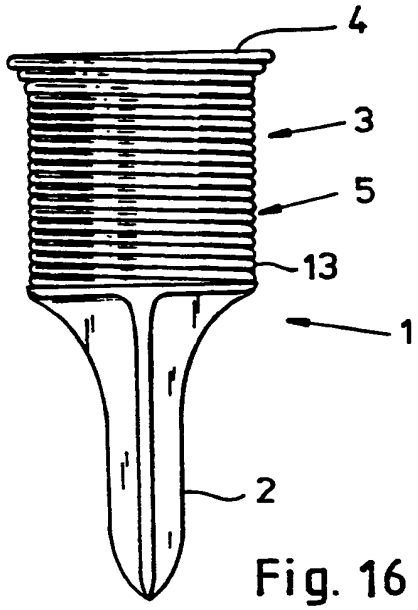

Fig. 16

INTERNATIONAL SEARCH REPORT

International Application No PCT/SE 91/00354

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all)[6]

According to International Patent Classification (IPC) or to both National Classification and IPC

IPC5: A 63 B 57/00

II. FIELDS SEARCHED

Minimum Documentation Searched[7]

Classification System	Classification Symbols
IPC5	A 63 B

Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in Fields Searched[8]

SE,DK,FI,NO classes as above

III. DOCUMENTS CONSIDERED TO BE RELEVANT[9]

Category *	Citation of Document,[11] with indication, where appropriate, of the relevant passages[12]	Relevant to Claim No.[13]
X	GB, A, 238599 (C.W. READ) 19 August 1925, see the whole document --	1-4
X	US, A, 2011203 (K. SEIKI) 13 August 1935, see the whole document --	1,5
X	US, A, 2839304 (L. LERICK) 17 June 1958, see the whole document --	1,10
A	US, A, 1942672 (H.R.THOMPSON) 9 January 1934, see the whole document --	1-10
A	US, A, 2440473 (J.W. HUGHES) 27 April 1948, see the whole document --	1-10

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"&" document member of the same patent family

IV. CERTIFICATION

Date of the Actual Completion of the International Search	Date of Mailing of this International Search Report
29th July 1991	1991 -08- 12
International Searching Authority	**Signature of Authorized Officer**
SWEDISH PATENT OFFICE	Johan Löfstedt

Form PCT/ISA/210 (second sheet) (January 1985)

III. DOCUMENTS CONSIDERED TO BE RELEVANT (CONTINUED FROM THE SECOND SHEET)

Category *	Citation of Document, with indication, where appropriate, of the relevant passages	Relevant to Claim No
A	US, A, 4645208 (MORABETO) 24 February 1987, see the whole document --	1-10

ANNEX TO THE INTERNATIONAL SEARCH REPORT ON INTERNATIONAL PATENT APPLICATION NO.PCT/SE 91/00354

This annex lists the patent family members relating to the patent documents cited in the above-mentioned international search report.
The members are as contained in the Swedish Patent Office EDP file on 91-06-27
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
GB-A- 238599	25-08-19	NONE	
US-A- 2011203	35-08-13	NONE	
US-A- 2839304	58-06-17	NONE	
US-A- 1942672	34-01-09	NONE	
US-A- 2440473	48-04-27	BE-A- 469574	00-00-00
		FR-A- 936275	00-00-00
		GB-A- 583829	00-00-00
US-A- 4645208	87-02-24	NONE	